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## PUBLIC HEALTH REPORTS.

### THE SECOND INTERNATIONAL CONFERENCE ON LEPROSY, HELD IN BERGEN, NORWAY. AUGUST 16 TO 19, 1909.

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In accordance with bureau orders directing me to attend the leprosy conference, and transmitting a certificate from the Department of State designating me as one of the three official delegates of the United States to the said conference, I left my station on Molokai, Hawaii, July 7, and arrived at Bergen, Norway, August 7, 1909.

The conference was formally opened August 16 by Haakon VII, King of Norway. Opening addresses followed by Dr. G. Armaur Hansen, president of the conference; Dr. H. P. Lie, secretary, and Professor Kirchner, of Germany.

The following-named countries sent official delegates: Argentine Republic, Belgium, Bulgaria, China, Cuba, Denmark, England, France, Holland, Italy, Japan, Portugal, Russia, Spain, Sweden, Germany, Egypt, Austria-Hungary, and the United States of America. Besides these, there were many representatives of institutions of learning and others who attended in a private capacity.

The rules of the conference required that the papers presented should be read in English, French, or German, and that such reading should not extend over a period of 15 minutes.

Following the opening of the conference, certain official delegates presented their reports on the status of leprosy and the measures adopted against it in the countries they represented. Such reports were made from the following countries: Germany, France, Russia, Austria-Hungary, Italy, Japan, Belgium, United States of America, and Argentine Republic.

#### PREVALENCE OF LEPROSY IN VARIOUS COUNTRIES.

From such reports, and from other data furnished the delegates by the Norwegian Government, it appears that the following enumeration may be considered as a fairly accurate estimate of the number of cases of leprosy in the several countries mentioned. In studying such data, however, the fact must be kept in mind that a comparatively large percentage of lepers are not recognized in the early stages of the disease, and further that concealment of cases probably exists to a greater or less extent in every country on the globe which adopts any measures looking to the isolation of such cases.

	Cases. <sup>a</sup>
France.....	246
Iceland.....	200
Germany.....	28
Roumania.....	208
Servia.....	3

<sup>a</sup>Approximate.

	Cases.
Bulgaria.....	9
European Turkey.....	550
Greece.....	9
Crete.....	600
Russia.....	1, 372
Italy.....	123
Spain.....	240
Palestine.....	800
India.....	97, 340
Ceylon.....	589
Indo-China.....	10, 500
Java.....	15, 000
Borneo.....	68
Sumatra.....	896
Japan.....	40, 000
Canada.....	20
Cuba.....	1, 297
Jamaica.....	115
United States of Colombia.....	4, 152
Argentine Republic.....	12, 000
Algeria (in 26 years).....	109
United States of America:	
Mainland of America.....	146
Hawaiian Islands.....	764
Porto Rico.....	17
Guam.....	19
Philippine Islands.....	2, 330
Canal Zone.....	7

#### BRIEF REVIEW OF CERTAIN OF THE PAPERS PRESENTED.

Doctor Raynaud, of Algeria, spoke on the subject of leprosy in that country, stating that 109 cases had been discovered there in 26 years. These were widely scattered, and no especially infected foci were noted; nevertheless, he considered that the following measures should be adopted for the control of the disease:

All cases to be reported to a central office and thereafter kept under observation of the authorities; from time to time the residences of such cases to be disinfected; no foreign leper to be allowed to land; the isolation of lepers with open lesions; distribution of medicine and other forms of relief by dispensary methods; and prohibiting lepers from engaging in trades that necessitate the handling of food products.

Professor Ehlers (Copenhagen) presented the preliminary report of the Danish-French commission for the study of leprosy, the subject being the "Transmission of leprosy by suctorial insects." The commission employed fleas, lice, and mosquitoes, allowing them to feed upon the blood of lepers by placing the insect directly over a leprous nodule, the latter being first punctured with a needle, and the lepra bacilli demonstrated in the blood flowing from the wound.

Their results showed:

1. That if a leprous nodule is punctured, the blood that flows from it is often rich in bacilli, due to a mixture of lymph from the lymph spaces.

2. That the blood an insect draws into itself rarely contains any bacilli, and never many, the explanation being that the insect obtains pure blood, unmixed with lymph, and that the lepra bacillus is rarely found in the blood, except in those dying of leprosy; that is to say, in the last stages of the disease.

Doctor de Beurmann (Paris) discussed the following subjects: "Point of entrance of the lepra bacillus," "The leprous chancre," "Leprous septicæmia," and "Extension of leprous infection from the original 'chancre' of lepra." He believes that the skin is the usual site of infection and that the nares is more rarely so; that when the bacilli gain entrance they remain dormant for a period of months, and then, under certain conditions with which we are unfamiliar, gain sufficient virulence to multiply and cause an inflammatory reaction in the surrounding tissues. This constitutes the initial lesion of the disease. Later it reaches the blood stream, and new nodules are established in distant portions of the body. He regards the invasion of the blood by these bacilli as a common occurrence.

If such are found to be the facts, the early excision of suspicious single nodules offers a hope of arresting the disease.

The same author spoke of the employment of the leprolin of Ross as a therapeutic measure in cases of leprosy. Injections of leprolin are followed by high fever, inflammatory reaction in the old nodules, and the appearance of new ones. No reaction, or at most a trivial one, is caused by the injection of this substance into healthy persons, or nonleprous tuberculous persons. There is, he thinks, no doubt as to the specific nature of the agent, and it may be of diagnostic importance. He further stated that in some cases the results of treatment by small doses of this agent have been very encouraging.

The same author spoke of a limited use of radium in cases of leprosy. He finds it useful in relieving pain and has seen a nodule disappear after a six weeks' trial of the agent.

Doctor Babes (Bucharest) spoke on the subject of "Reactions reputed to be specific in lepra." He stated that remarkable improvement follows the use of small doses of tuberculin. He also stated that the compliment fixation test is demonstrable in cases of leprosy, and that such reactions are present in cases where neither syphilitic nor tuberculous infection exists.

Professor von Petersen spoke of a lepra isolation colony in Russia. He regards the colony plan as the most satisfactory method. He laid stress on the early separation of the children of lepers.

Dr. A. Sand (Trondhjem) speaking from an experience with 1,500 lepers in the course of a number of years, stated that he was convinced that infection does not always occur from direct contagion.

Professor During (Dresden) read a paper entitled "Is lepra hereditary?" He reported that he had observed that the children of lepers are often physical weaklings and more susceptible to many diseases, but especially tubercle. On the other hand, he believed there was no evidence that they are hypersusceptible to leprosy, still less was there evidence of intrauterine infection, although on theoretical grounds it might be expected to occur.

Professor Sticker considered the mode of transmission of lepra as established, and that the next important subject is whether it is purely a human disease or not. The evidence at hand at present appears to lead to such a conclusion, but further research is needed among lower animals, and even plants, to ascertain if the organism exists outside the human body.

Professor von Deycke (Hamburg) spoke on "Nastin" (Deycke). He stated in part that this substance is a neutral fat obtained from "streptothrix liproides."

Pure nastin causes too violent inflammatory reactions for practical use; he therefore uses Nastin B, which is nastin combined with benzo-chloride. This latter when injected into lepers does not cause reactions severe enough to be dangerous. Its action is to deprive the lepra bacillus of its fat, after which the death of the bacillus occurs. Marked improvement was noted after its administration by this investigator.

Dr. E. Kiwull (Livonia, Russia) stated that he had tried nastin in 14 cases, and of these 3 improved; 6 did not improve, and 5 grew worse.

Dr. H. P. Lie (Bergen) thought great caution should be observed in the employment of nastin, and that this new substance was, at best, only a step forward in the treatment of leprosy.

Doctor Brinckerhoff, of the United States Public Health and Marine-Hospital Service (paper presented by the writer of this report), had thoroughly tried nastin in 6 cases. Of these 2 appeared to show slight improvement, while 4 grew steadily worse.

The writer also presented Doctor Brinckerhoff's paper upon the "Utility of the examination of the nasal cavity in early cases of leprosy, as a diagnostic means." Doctor Brinckerhoff was not able to confirm Professor Sticker on this point, although he believes that it has an important bearing in late cases of the disease, as a means by which the bacilli are discharged to the outer world, and thus infect other individuals.

The conference was formally closed August 19. Immediately preceding this step, the following resolutions were adopted. The only opposition to the resolutions came from Dr. Jonathan Hutchinson, who spoke at length upon his theory that fish are the causative agent in this disease.

#### RESOLUTIONS ADOPTED BY THE LEPROSY CONFERENCE.

##### A.

I. The Second International Scientific Conference on Leprosy confirms in every respect the resolutions adopted by the First International Conference of Berlin, 1897.

Leprosy is a disease which is contagious from person to person, whatever may be the method by which this contagion is effected. Every country, in whatever latitude it is situated, is within the range of possible infection by leprosy, and may, therefore, usefully undertake measures to protect itself.

II. In view of the success obtained in Germany, Iceland, Norway, and Sweden, it is desirable that other countries should isolate lepers.

III. It is desirable that the children of lepers should be separated from their parents as soon as possible, and that they should remain under observation.

IV. An examination should be made from time to time of those having lived with lepers by a doctor having special knowledge.

It is desirable that lepers should not engage in certain trades or occupations.

All leper vagabonds and beggars should be strictly isolated.

##### B.

V. All theories on etiology and the mode of propagation of leprosy should be carefully examined to ascertain if they accord with our knowledge of the nature and biology of the bacillus of leprosy.

VI. The clinical study of leprosy induces the belief that it is not incurable. We do not at present possess a certain cure. It is desirable, therefore, to continue the search for a specific remedy with the greatest zeal.

#### RESOLUTIONS ADOPTED BY THE BERLIN CONFERENCE OF 1897.

At the close of the debates of the International Leprosy Conference, Berlin, 1897, the secretaries have the honor to present the following report of the general conclusions of the conference. They believe that such a résumé will be especially desirable for those members who have been delegated by their respective governments, and who have to make reports on the results of the conference. A considerable portion of the discussion has related to the *Bacillus leprae*, which the conference accepts as the virus of leprosy, and which for upward of 25 years has been known to the scientific world through the important discovery of Hansen and the able investigations of Neisser.

The conditions under which the bacillus grows and develops are still unknown, as well as the way of its invasion into the human system, but from the discussion of the conference it seems probable that unanimity of opinion will soon prevail in reference to its modes of subsequent dissemination within the human body.

Very interesting observations have been brought forward in connection with the elimination of the bacilli in large quantities by means of the skin and the nasal and buccal mucous membranes of lepers. It is desired that such observation be confirmed when opportunities occur.

The question is of greatest importance to those who are intrusted with the care of the public health, as leprosy is now acknowledged to be a contagious disease. Every leper is a danger to his surroundings, the danger varying with the nature and extent of his relations therewith, and also with the sanitary conditions under which he lives. Among the lower classes every leper is especially dangerous to his family and fellow-workers, but cases of leprosy frequently appear in the higher social circles.

The theory of heredity of leprosy is now further shown to have lost ground in comparison with the now generally accepted theory of its contagiousness.

The treatment of leprosy has only had palliative results up to the present time.

Serum therapy has so far been unsuccessful. In view of the virtual incurability of leprosy and the serious and detrimental effects which its existence in a community causes, and considering the good results which have followed the adoption of legal measures of isolation in Norway, the leprosy conference, as a logical issue of the theory that the disease is contagious, has adopted the following resolutions, proposed by Doctor Hansen, and amended by Doctor Besnier:

1. In countries in which leprosy forms foci or has a great extension, isolation is the best means of preventing the spread of the disease.

2. The system of obligatory notification and of observation and isolation, as carried out in Norway, is recommended to all nations with local self-government and a sufficient number of physicians.

3. It should be left to the legal authorities, after consultation with the medical authorities, to take such measures as are applicable to the special social conditions of the districts.